

541, 792

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



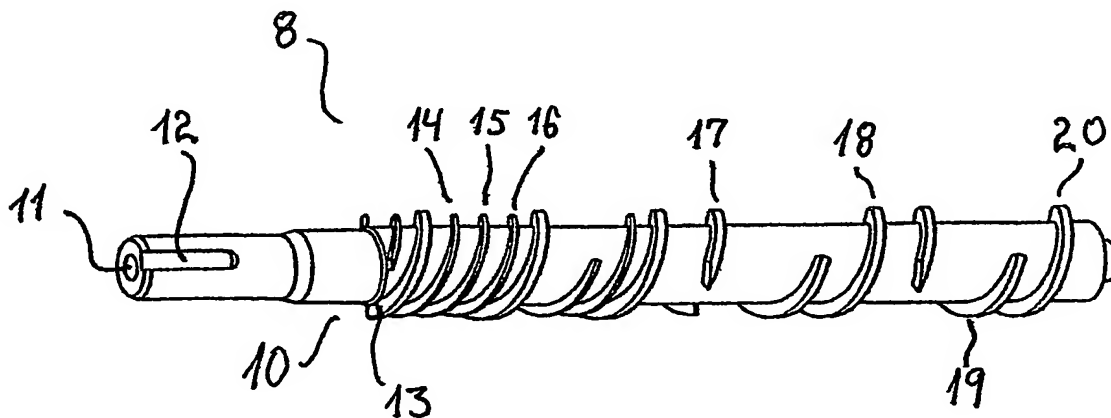
(43) International Publication Date  
29 July 2004 (29.07.2004)

PCT

(10) International Publication Number  
**WO 2004/062883 A1**

- (51) International Patent Classification<sup>7</sup>: **B29C 47/62**, A23G 9/16
- (21) International Application Number: PCT/DK2004/000009
- (22) International Filing Date: 8 January 2004 (08.01.2004)
- (25) Filing Language: Danish
- (26) Publication Language: English
- (30) Priority Data:  
PA 2003 00022 10 January 2003 (10.01.2003) DK
- (71) Applicant (for all designated States except US): **TETRA LAVAL HOLDING & FINANCE S.A.** [CH/CH]; Avenue Général-Guisan 70, CH-1009 Pully (CH).
- (72) Inventor; and  
(75) Inventor/Applicant (for US only): **RASMUSSEN, Henrik, Guldmann** [DK/DK]; Børupvej 291, DK-8310 Tranbjerg (DK).
- (74) Agent: **PATENTGRUPPEN ApS**; Arosgaarden, Aaboulevarden 31, DK-8000 Aarhus C (DK).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**  
— with international search report  
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CONVEYOR SCREW FOR USE AS SURFACE SCRAPER IN COOLING AND FREEZING UNITS



(57) Abstract: A conveyor screw for conveyance of high viscose masses and an apparatus with such a conveyor screw, preferably for production of an ice cream. Said crew having a plurality of screw flights, where at least two screw flights extend from an inlet end part of the conveyor screw and wherein the outer edges of the two screw flights extend in different radial distance from longitudinal axis. Whereby the radially shorter screw flight assists with the conveyance of a part of the mass without affecting the whole mass and especially without affecting the ice layer, which by use of the conveyor screw in a through-flow freezer is created on the inner wall of the freezing cylinder. Cooling the mass to a temperature of -15 °C or lower as preparation for extrusion of the mass for formation.

WO 2004/062883 A1